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CLAIMS

The following is a detailed listing of all claims that are, or were, in the Application.

1-11.   (Canceled)

12.   (Currently amended) A method implemented by an apparatus for supplying electronic documents based on XML, the method comprising:

supplying from a provider of a program broadcasting system to a client in the program providing system an electronic document that uses XML to describe programming information about a plurality of television broadcast programs scheduled for broadcast in the program broadcasting system, the electronic document having a hierarchical structure based on a prescribed syntax, the hierarchical structure including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the scheduled television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information; and

supplying from the provider to the client an update document to update content in the previously supplied electronic document, the update document having a structure based on the prescribed syntax and including the upper fragment and an invalid element to identify an invalid content portion in one of the lower fragments in the hierarchical structure, wherein the invalid content portion is related to one of the television broadcast programs described in the previously supplied electronic document, and wherein the update document indicates deletion of said invalid content portion from the electronic document according to the invalid element.

13.   (Canceled)

14.   (Previously presented) The method of claim 12, wherein when the invalid element indicates the deletion of only said invalid content portion, only the invalid content portion is deleted from the previously supplied electronic document at the client.

15-19. (Canceled)

20.   (Currently amended) A method implemented by an apparatus for updating a previously supplied electronic document describing programming information about a plurality of television broadcast programs scheduled for broadcast in a program broadcasting system, wherein the previously supplied electronic document is stored in a client of the program broadcasting system and has a hierarchical structure based on a prescribed syntax, the hierarchical structure including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the scheduled television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information, the method comprising:

requesting by the client an updated version of said previously supplied electronic document from a provider in the program broadcasting system;

in response to the request, receiving from the provider at the client an update document based on XML to update content in the previously supplied electronic document, wherein the update document has a structure based on the prescribed syntax and includes the upper fragment and an invalid element which indicates that a content portion is invalid in one of the lower fragments of the previously supplied electronic document, wherein the invalid content portion is related to one of the television broadcast programs scheduled for broadcast in the program broadcasting system; and

deleting said invalid content portion from the previously supplied electronic document as indicated by the invalid element at said client.

21.   (Canceled)

22.   (Currently amended) A method implemented by an apparatus for updating a previously supplied electronic document based on XML, wherein said previously supplied electronic document describes programming information about a plurality of television

broadcast programs scheduled for broadcast in a program broadcasting system, and the previously supplied electronic document is stored in a client of the program broadcasting system and has a hierarchical structure based on a prescribed syntax, the hierarchical structure including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the scheduled television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information, the method comprising:

requesting by the client an updated version of said previously supplied electronic document from a provider in the program broadcasting system;

in response to the request, receiving from the provider at the client an update document for updating content in said previously supplied electronic document, said update document having a structure based on the prescribed syntax and including the upper fragment and an invalid element which indicates that at least a content portion is invalid in one of the lower fragments of the previously supplied electronic document, wherein said invalid content portion is identified by the invalid element and is related to one of the television broadcast programs scheduled for broadcast in the program broadcasting system; and

deleting said invalid content portion from the previously supplied electronic document as indicated by the invalid element at said client.

23.   (Canceled)

24.   (Currently amended) The method of claim 22, ~~wherein said invalid element is defined by a syntax defining the hierarchical structure of the previously supplied electronic document, and~~ wherein said prescribed syntax is defined by an XML schema.

25. (Previously presented) The· method of claim 22, wherein said deleting includes identifying in the previously supplied electronic document said invalid content portion identified by said invalid element at said client.

26. (Previously presented) The method of claim 22, wherein said invalid content portion is indicated to be invalid by an invalid attribute.

27. (Currently amended) The method of claim 26, ~~wherein said invalid attribute is defined by a syntax defining the hierarchical structure of said previously supplied electronic document,~~ wherein said prescribed syntax is defined by an XML schema.

28. (Currently amended) A method implemented by an apparatus for updating a previously supplied electronic document related to a schedule of broadcasting a plurality of television broadcast programs in a program broadcasting system, wherein the previously supplied electronic document is stored in a client of the program broadcasting system and has a hierarchical structure based on a prescribed syntax, the hierarchical structure including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information, the method comprising:

requesting by the client an updated version for said previously supplied electronic document from a provider in the program broadcasting system;

in response to the request, receiving from the provider at the client an update document for updating content in the previously supplied electronic document, the update document having a structure based on the prescribed syntax and including the upper fragment and an invalid element which indicates an invalid content portion in one of the lower fragments of the previously supplied electronic document, wherein said invalid content

portion is related to one of the television broadcast programs scheduled for broadcast in the program broadcasting system; and

deleting said invalid content portion from the previously supplied electronic document at said client as indicated by the invalid element in the update document supplied from said provider.

29. (Canceled)

30. (Currently amended) The method of claim 28, wherein said invalid element is defined ~~by a~~ in said prescribed syntax ~~defining the hierarchical structure of the previously supplied electronic document~~.

31. (Previously presented) The method of claim 30, wherein said syntax is XML schema.

32. (Previously presented) The method of claim 28, wherein said deleting includes identifying in the previously supplied electronic document said invalid content portion identified by said invalid element at said client.

33. (Previously presented) The method of claim 28, wherein said invalid content portion is indicated to be invalid by an invalid attribute.

34. (Currently amended) The method of claim 33, wherein said invalid attribute is defined ~~by a~~ in said prescribed syntax ~~defining the hierarchical structure of the previously supplied electronic document~~.

35.   (Previously presented) The method of claim 34, wherein said syntax is XML schema.

36.   (Currently amended) A method implemented by an apparatus for updating a previously supplied electronic document providing programming information related to broadcasting a plurality of television broadcast programs scheduled for broadcast in a program broadcasting system, wherein said previously supplied electronic document is stored in a client of the program broadcasting system and has a hierarchical structure based on a prescribed syntax, the hierarchical structure including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the scheduled television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information, the method comprising:

receiving at a provider of the program broadcasting system a request from said client for an updated version of said previously supplied electronic document; and

supplying from the provider to said client an update document to update content in the previously supplied electronic document, the update document having a structure based on the prescribed syntax and including the upper fragment and an invalid element, the invalid element indicating that a content portion in one of the lower fragments of said previously supplied electronic document is invalid, wherein said invalid content portion is identified by the invalid element to be deleted from the previously supplied electronic document, and the invalid content portion is related to one of the television broadcast programs scheduled for broadcast in the program broadcasting system.

37.   (Canceled)

38.   (Currently amended) The method of claim 36, wherein said invalid element is defined ~~by a~~ in said prescribed syntax ~~defining the hierarchical structure of the previously supplied electronic document~~.

39.   (Previously presented) The method of claim 38, wherein said syntax is XML schema.

40.   (Previously presented) The method of claim 36, wherein said invalid content portion is indicated to be invalid by an invalid attribute.

41.   (Currently amended) The method of claim 40, wherein said invalid attribute is defined ~~by a~~ in said prescribed syntax. ~~defining the hierarchical structure of the previously supplied electronic document~~

42.   (Previously presented) The method of claim 41, wherein said syntax is XML schema.

43.   (Currently amended) A method implemented by an apparatus for updating a previously supplied electronic document providing programming information related to broadcasting a plurality of television broadcast programs scheduled for broadcast in a program broadcasting system, wherein said previously supplied electronic document is stored in a client of the program broadcasting system and has a hierarchical structure <u>based on a prescribed syntax, the hierarchical structure</u> including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the scheduled television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information, the method comprising:

identifying a version of said previously supplied electronic document as invalid;

from the client, receiving at a provider of the program broadcasting system a request for an updated version of said previously supplied electronic document; and

supplying from the provider to said client an update document to update content in the previously supplied electronic document, the update document having a structure based on the prescribed syntax and including the upper fragment and an invalid element, the invalid element indicating that a content portion in one of the lower fragments of said previously supplied electronic document is invalid, wherein said invalid content portion is identified by the invalid element to be deleted from the previously supplied electronic document, and the invalid content portion is related to one of the television broadcast programs scheduled for broadcast in the program broadcasting system.

44.   (Canceled)

45.   (Currently amended) The method of claim 43, wherein said invalid element is defined ~~by a~~ in said prescribed syntax ~~defining the hierarchical structure of the previously supplied electronic document~~.

46.   (Previously presented) The method of claim 45, wherein said syntax is XML schema.

47.   (Previously presented) The method of claim 43, wherein said invalid content portion is indicated to be invalid by an invalid attribute.

48.   (Currently amended) The method of claim 47, wherein said invalid attribute is defined ~~by a~~ in said prescribed syntax ~~defining the hierarchical structure of the previously supplied electronic document~~.

49.   (Previously presented) The method of claim 48, wherein said syntax is XML schema.

50.   (Currently amended) A method implemented by an apparatus for processing a response to a request for updating a previously supplied electronic document related to a schedule of broadcasting a plurality of television broadcast programs in a program broadcast system, wherein said previously supplied electronic document is stored in a client of the program broadcasting system and has a hierarchical structure based on a prescribed syntax, the hierarchical structure including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the scheduled television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information, the method comprising:

    receiving at the client an update document from a provider in the program broadcasting system, the update document having a structure based on the prescribed syntax and including the upper fragment and an invalid element to delete a content portion in one of the lower fragments of said previously supplied electronic document, wherein said invalid element indicates that said content portion is invalid, and wherein said invalid content portion is identified by the invalid element and is related to one of the scheduled television broadcast programs;

    identifying in the previously supplied electronic document said invalid content portion identified by said invalid element at said client; and

    controlling to delete said identified invalid content portion from the previously supplied electronic document at said client.

51.   (Canceled)

52. (Currently amended) The method of claim 50, wherein said invalid element is defined ~~by a~~ in said prescribed syntax ~~defining the hierarchical structure of the previously supplied electronic document~~.

53. (Previously presented) The method of claim 52, wherein said syntax is XML schema.

54. (Previously presented) The method of claim 50, wherein said invalid content portion is indicated to be invalid by an invalid attribute.

55. (Currently amended) The method of claim 54, wherein said invalid attribute is defined ~~by a~~ in said prescribed syntax ~~defining the hierarchical structure of the previously supplied electronic document~~.

56. (Previously presented) The method of claim 55, wherein said syntax is XML schema.

57. (Currently amended) A method implemented by an apparatus for replying to a request for updating a previously supplied electronic document related to a schedule of broadcasting a plurality of television broadcast programs in a program broadcast system, wherein said previously supplied electronic document is stored in a client of the program broadcasting system and has a hierarchical structure based on a prescribed syntax, the hierarchical structure including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the scheduled television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information, the method comprising:

supplying said client with an update document from a provider of the program broadcasting system, the update document having a structure based on the prescribed syntax and including the upper fragment and an invalid element to delete a content portion in one of the lower fragments of said previously supplied electronic document at the client, wherein said invalid element indicates that said content portion is invalid and should be deleted from the previously supplied electronic document, wherein the invalid content portion is related to one of the scheduled television broadcast programs.

58.   (Canceled)

59.   (Currently amended) The method of claim 57, wherein said invalid element is defined ~~by a~~ in said prescribed syntax ~~defining the hierarchical structure of the previously supplied electronic document~~.

60.   (Previously presented) The method of claim 59, wherein said syntax is XML schema.

61.   (Previously presented) The method of claim 57, wherein said invalid content portion is indicated to be invalid by an invalid attribute.

62.   (Currently amended) The method of claim 61, wherein said invalid attribute is defined ~~by a~~ in said prescribed syntax ~~defining the hierarchical structure of the previously supplied electronic document~~.

63.   (Previously presented) The method of claim 62, wherein said syntax is XML schema.

64.   (Currently amended) A method implemented by an apparatus for processing a response to a request for updating a previously supplied electronic document providing programming information about a plurality of television broadcast programs scheduled for broadcast in a program broadcasting system, wherein the previously supplied electronic document has a hierarchical structure based on a prescribed syntax, the hierarchical structure including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the scheduled television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information, wherein the response to the request provides an update document having a structure based on the prescribed syntax and including the upper fragment and an invalid element which indicates that a content portion is invalid in one of the lower fragments of the previously supplied electronic document, wherein said invalid content portion is related to one of the scheduled television broadcast programs, the method comprising:

identifying said invalid content portion in the previously supplied electronic document by using the invalid element of the update document at said client; and

controlling to delete said identified invalid content portion from the previously supplied electronic document at said client.

65.   (Canceled)

66.   (Previously presented) The method of claim 64, wherein said invalid element is defined by a in said prescribed syntax defining the hierarchical structure of the previously supplied electronic document.

67.   (Previously presented) The method of claim 66, wherein said syntax is XML schema.

68.   (Previously presented) The method of claim 64, wherein said invalid content portion is indicated to be invalid by an invalid attribute.

69.   (Currently amended) The method of claim 68, wherein said invalid attribute is defined ~~by a~~ in said prescribed syntax ~~defining the hierarchical structure of the previously supplied electronic document~~.

70.   (Previously presented) The method of claim 69, wherein said syntax is XML schema.

71.   (Previously presented) The method of claim 12, wherein the program content information includes a synopsis, casting information or a review.

72.   (Previously presented) The method of claim 12, wherein the broadcast information specifies a broadcast service, a broadcast time, and a broadcast duration.

73.   (Previously presented) The method of claim 20, wherein the program content information includes a synopsis, casting information or a review.

74.   (Previously presented) The method of claim 20, wherein the broadcast information specifies a broadcast service, a broadcast time, and a broadcast duration.

75.   (Previously presented) The method of claim 22, wherein the program content information includes a synopsis, casting information or a review.

76.   (Previously presented) The method of claim 22, wherein the broadcast information specifies a broadcast service, a broadcast time, and a broadcast duration.

77.   (Previously presented) The method of claim 28, wherein the program content information includes a synopsis, casting information or a review.

78.   (Previously presented) The method of claim 28, wherein the broadcast information specifies a broadcast service, a broadcast time, and a broadcast duration.